



COLORADO

Resiliency & Recovery Office

Governor John W. Hickenlooper



Two-Year Report

October, 2015

Together. A Stronger Colorado.



COLORADO
Gov. John Hickenlooper

October 27, 2015

Greetings,

Communities throughout Colorado continue to build back strong from the unprecedented floods that inflicted historic damage in September 2013 — demonstrating the fortitude, commitment and resilience that makes Colorado great. The recovery efforts over the past two years have resulted in stronger, safer and healthier residents, communities, infrastructure and natural resources.

The scope of the flood event was truly historic and devastating, claiming 10 lives, displacing 18,000 Coloradans from their homes and tearing apart communities across a vast area encompassing 24 counties. The economic impact was significant as well, resulting in estimated damages nearing \$4 billion.

The immediate, coordinated hands-on action from emergency responders, military personnel and people from multiple agencies was tremendous and heroic, helping to quickly get us back on our feet.

Construction crews continued their tireless work during the past year and achieved more significant progress in making permanent repairs to several roads and highways in the region — including the completion of the entire U.S. 36 project, which sustained some of the heaviest flood damage.

We learned that a disaster is a cycle, not a single point in time. Over the past 12 months, while the recovery work on the ground has continued, our vision and efforts simultaneously began evolving to develop and establish resiliency in the very fabric of Colorado's identity — that can-do, never give up spirit that embodies Coloradans.

Toward that end, we brought together hundreds of stakeholders to develop and adopt the Colorado Resiliency Framework in 2015, a first-of-its-kind comprehensive document that will serve as our blueprint as we continue to evolve our long-term commitment to a resilient future.

Working hand-in-hand with our partners, we have made significant strides in identifying and addressing various vulnerabilities that will better prepare our communities in the face of future challenges. We also continue to advocate for and take the necessary steps to secure the essential resources required for an ongoing, monumental rebuilding task such as this.

In this Two-Year Report from the Colorado Resiliency and Recovery Office, we recognize and take pride in the outstanding progress made through the collaborative efforts of many local governments, community groups and countless volunteers. But we also recognize we have more to do to continue building a stronger and more resilient Colorado.

Sincerely,

John W. Hickenlooper
Governor



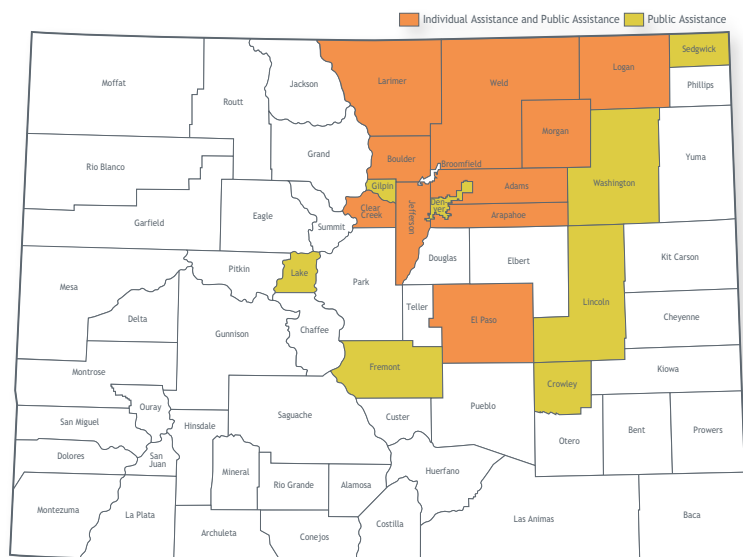
Two Years Later

Two years removed from the unprecedented September 2013 floods that ravaged 24 counties and tore apart lives, homes and businesses, communities across Colorado continue to work together with the same sense of urgency—with engagement and support from the State and other key partners—to ensure a successful path toward ongoing rebuilding and recovery efforts that will ultimately lead to a more resilient Colorado.

The flood event was historical and monumental, destroying infrastructure and devastating communities in ways many had never seen before. The response to the disaster has been just as impressive and immense—with local, regional, state and federal agencies working collaboratively with citizen volunteers and non-governmental organizations to address the myriad needs and secure the resources necessary to launch and sustain the recovery work.

As an immediate response to the flooding, Gov. Hickenlooper formed the Colorado Recovery Office (CRO) to coordinate recovery efforts, provide transparency, maintain a sense of urgency at the State level, advocate for recovery funding and build partnerships across multi-faceted public and private organizations.

FEMA-4145-DR, Colorado Disaster Declaration, 10/21/2013



CRO and the State as a whole benefited greatly from the collaborative efforts and dedicated participation of local leadership in conjunction with the selfless contributions of countless volunteers and other champions of the community.

Many activities during the first year following the flood primarily focused on infrastructure repairs and watershed restoration activities, while also addressing immediate needs of the tens of thousands of Coloradans who were personally impacted—much of which was captured in the CRO One-Year Report (Oct. 2014). Second year efforts included continued joint recovery activities, but also began follow-through to further encompass and transition toward resiliency planning, development and implementation for the long term.

As such, the Governor re-named the CRO as the Colorado Resiliency and Recovery Office in 2015, which holds the dual responsibility of continuing its recovery oversight mission, along with spearheading the long-term implementation of the State's holistic resiliency efforts. That vision is illustrated in the Colorado Resiliency Framework, a collaborative, comprehensive undertaking that was also developed and adopted in the past year.

CRRO, in partnership with agencies across local, State and federal government, continues to identify, develop and deploy the resources necessary to meet the ongoing challenges. This Two-Year Report highlights some accomplishments, successes and milestones from the past year with an eye toward the future as we continue to support, empower and enable Colorado communities to become stronger and more resilient in the face of future disasters.

Supporting Local Communities and Working Together to Build a Stronger Colorado



Together, we have rallied to accomplish a great amount over the past two years in starting to rebuild a stronger, more unified and resilient Colorado. However, the road to full recovery to a “new normal” that encompasses resiliency is long and challenging. In short, there is much that still needs to be done, but we are confident we have the fortitude and resources necessary to accomplish the task at hand.



The widespread infrastructure damage and devastating loss of homes and property caused by the floods has posed some unique challenges to local, State and federal partners that continue to be addressed. The State’s ongoing commitment is to coordinate activities across its multidisciplinary agencies, foster collaboration, develop effective partnerships, empower local leadership and support recovery and resiliency efforts throughout impacted communities.



State agencies have diligently coordinated efforts to successfully provide support to local partners in assisting Coloradans who encountered extreme life-altering circumstances, such as being displaced or dislocated from their flood-impacted homes, workplaces or both.

For example, all remaining residents who had been temporarily housed through FEMA’s Transitional Sheltering Assistance Program obtained permanent housing solutions by March of 2015 with

help from the Colorado Division of Homeland Security and Emergency Management (DHSEM) Disaster Case Management Program and local partners.

Also, the Colorado Division of Housing (DOH) awarded a total of \$34.5 million in new construction housing funds in 2015, which—combined with CDBG-DR funds, State Housing Tax Credits, Low-Income Housing Tax Credits and Private Activity Bonds—will result in nearly 1,400 new affordable, rental housing units in the disaster impacted counties over the next 18 months. DOH plans another round of joint underwriting, again pairing CDBG-DR with tax credits and bonds, in spring 2016.

Colorado was awarded its first ever Disaster National Emergency Grant (NEG) post-flood. The Department of Labor and Employment facilitated connecting local, state and federal partners and enabled collaborative working relationships between groups in 2015, while also identifying and establishing a sustained, long-term program that will enable a quicker and improved response to local communities in the event of future disasters.

Many of those served through the NEG program come from low income, disabled and other vulnerable populations. To date, more than 200 flood impacted Coloradans have been employed through the NEG program, utilizing \$2.7 million in assistance to support flood recovery employment options.

In transitioning from a flood response mode to long-term recovery over the past year, several State agencies have provided full service support to municipalities by offering not only grants, but also project development consultation, demographic data and analyses, advice on fiscal sustainability and subject matter expertise. These ongoing efforts contribute to the long-term capacity of communities as well as short-term recovery priorities.

Capacity building is vital for the communities and regions that are recovering from disasters. The State continues to support the efforts of local governments, watershed coalitions and community groups by facilitating training opportunities on targeted topics, intensive technical assistance and making necessary funding resources available. For example, the State has assisted local communities with funding to create and staff 10 collaborative non-profit watershed coalitions and 17 related planning projects and studies as part of a watershed resilience pilot program.

Working in conjunction with numerous counties and other key partners, the State has successfully demonstrated the need for, secured and leveraged approximately \$1.7 billion from a number of different sources, including grant programs that promote local governments' resilience planning and sustainability efforts (see Appendix Table 2). Partners from across multiple sectors have worked together to ensure state and local funds are being put to the most effective and strategic use. The State has set up effective systems for both response and long-term recovery.

Local communities and the State share an unwavering commitment to Colorado's flood impacted citizens

in providing the necessary resources that ensure their safety and enhance their overall physical health and state of mind, particularly in the wake of a natural disaster.

State agencies have facilitated assistance to disaster survivors as they rebuild their lives through many different funding sources and programs, including Colorado disaster emergency matching funds, the Colorado Department of Public Health and Environment's natural disaster grant program, energy mineral impact emergency funds and natural hazard mapping funds provided by the State Legislature's adoption of Senate Bill 245 in 2015, to name just a few.

Reconnecting people to their homes, businesses, communities and other parts of the state has been a particularly important ongoing mission led by the Colorado Department of Transportation (CDOT)—initially working to repair and reopen all flood-damaged highways and roads, and subsequently having completed a review of lessons learned from the flood event and identifying best practices for future response and recovery strategies and tactics.

After initially addressing 37 major emergency repair projects, CDOT began the task of overseeing the completion of numerous permanent repair projects—12 of which have either completed construction or are in progress and the remainder having completed design or are awaiting construction. Repair work on U.S. 36, which sustained a notable amount of damage, was completed in 2015, while similar work on U.S. 34 Big Thompson Canyon—one of the most vulnerable thoroughfares in the region—will begin next year.



Resiliency is the ability of communities to rebound, positively adapt to, or thrive amidst changing conditions or challenges—including disasters and changes in climate—and maintain quality of life, health growth, durable systems and conservation of resources for present and future generations.

— Definition of resiliency adopted by Colorado Resiliency Working Group (CRWG)



Going forward, CDOT and the Federal Highways Administration (FHWA) have developed a model to analyze vulnerability and risk in other critical corridors impacted by the flood. The model enables the incorporation of resiliency measures in the permanent repair of roads.

It is guided by six risk and resiliency flood response and management goals that include: efficient project delivery, eligible funding maximization, audit risk mitigation, data and document management optimization, effective communication and a “build back better” culture. It also aims to

maximize \$450 million in FHWA emergency relief funding, in conjunction with local and non-profit partners, to deliver the most comprehensive solutions to the remaining permanent repair projects.

The State also continues to work proactively with local jurisdictions and communities to rebuild stronger, more resilient roads and bridges in Colorado’s canyon areas. A Colorado Watershed Conservation Board (CWCBC) and CDOT partnership resulted in the development of updated hydrology for six watersheds.

The hydrology indicated that Colorado’s risks to events such as the 2013 floods was higher than previously understood. Factoring the latest hydrology data and best mapping information into the design of recovery and resiliency projects—which is already taking place—will ensure they are constructed and located to improve accessibility for local residents and businesses while reducing risk in the face of future disasters.



The Roadmap to Long-Term Resiliency

While Colorado has experienced its fair share of disasters in recent years, Coloradans have shown their resolve by consistently responding with strength, determination and above all, resilience. The State's ongoing mission, through the CRRO, is to build on those special virtues and, working with community partners across Colorado, further develop, establish and embrace an identity and culture rooted in resiliency.

A key element in working toward long-term resiliency is learning important lessons of past disaster events and implementing resiliency strategies that not only build back, but build back smarter and stronger than before.

The Governor's Office, CRRO and a broad-based collaborative of agencies took a major step in that direction this past year with the creation and adoption of the Colorado Resiliency Framework, a first-of-its kind holistic and comprehensive plan that represents Colorado's long-term commitment and investment in a resilient future.

The framework serves as a call to action and represents a partnership, with its foundation based on collaboration and teamwork, along with active participation of multiple community stakeholder groups throughout the State and of Colorado as a whole. It also provides a new mindset going forward, in establishing a structure through which the State will support local partners as they adopt and

implement their own resiliency plans and projects into their "everyday way" of doing business.

Another vital aspect of the framework is risk and vulnerability assessment—with particular emphasis on evaluating natural hazards such as weather and climate related events, but also addressing human caused events such as industrial accidents, economic strife and public health crises—while encouraging proactive risk assessment and mitigation factors into planning and development activities at the State and local levels. Concurrent State efforts, including the Colorado Energy Office's climate vulnerability analysis, provided foundational information to inform the resiliency strategies and priorities within the framework.

In short, the Colorado Resiliency Framework represents the State's commitment and innovative approach to a more resilient future, recognizing that it also requires the participation from many other partner organizations—including federal, State, local, non-profit and private entities—and the community as a whole. It puts in motion the State's ability to help empower communities to better prepare for future challenges while supporting continued growth, health, beauty and quality of life.

The State continues to actively advocate for and pursue additional funding resources to support communities' ongoing rebuilding activities and resiliency implementation. One such





opportunity is the National Disaster Resilience Competition (NDRC) hosted by the U.S. Department of Housing and Urban Development.

The NDRC is a unique opportunity in which Colorado and 39 other states and communities across the country have qualified to compete for a share of \$1 billion in federal disaster relief money to address unmet needs, based on Presidentially declared disasters that occurred between 2011-2013. Colorado is well-positioned in the competition, based on its community engagement and its application that defines its need, analyzes proposed regional collaborative revitalization projects and illustrates a long-term strategy for achievable and sustainable resiliency.

In the coming months and years, the State is resolved to maintain a sense of urgency, transparency and determination as it moves forward on all active fronts. It also will continue to cultivate, maintain and strengthen working relationships with its key partners across all sectors, collaborating on efforts designed to formulate and integrate community and regional resilience initiatives.

Colorado has a well-deserved reputation for its strength, courage, ingenuity and leadership. The State's vision of resiliency is another example of its commitment to all Coloradans and to their long-term sustainability and overall well-being.



Appendices

Table 1 – Summary Table of Regulatory and Predictive Discharges 2013 Flood

Location	Drainage Area (sq. mi.)	2013 Peak Discharge Estimate (cfs)	Regulatory Discharges (cfs)				2013 Estimated Regulatory Frequency	Predictive Regulatory Discharges (cfs)				2013 Estimated Predictive Frequency
			10- Year	50- Year	100- Year	500- Year		10- Year	50- Year	100- Year	500- Year	
South Platte River												
South Platte River at Fort Lupton	5,043	10,300*	10,000	22,000	29,000	52,000	>10 Year	10,800	17,700	20,900	28,900	10 Year
South Platte River at Kersey	9,659	59,000*	11,000	24,500	32,500	57,500	500 Year	18,200	34,800	43,500	68,000	>100 Year
Coal Creek												
Coal Creek at SH72 Near Wondervu	10	1,190*	77	1,580	2,930	5,240	25-50 Year	60	1,630	2,930	5,670	25-50 Year
Coal Creek near Plainview Road	15	4,060*	67	1,690	3,340	6,260	>100 Year	55	1,715	3,330	7,390	>100 Year
Boulder Creek												
Boulder Creek near Orodell	102	2,020	1,520	5,270	6,920	12,360	10-25 Year	1,130	3,640	5,390	11,400	25 Year
Boulder Creek at 28th Street	136	5,000	2,200	7,800	8,000	20,600	25 Year	1,490	4,640	6,860	14,400	50 Year
St. Vrain River Watershed												
Middle St. Vrain River above S. St. Vrain	30*	1,750	590	1,430	2,000	4,070	50-100 Year	360	1,170	1,820	4,110	100 Year
South St. Vrain River at Middle St. Vrain	68*	2,700	1,220	2,790	3,990	8,560	50 Year	1,190	3,360	5,370	11,000	25-50 Year
South St. Vrain above confluence N. St. Vrain	83*	9,000	1,400	3,750	5,430	11,900	<500 Year	1,460	4,500	6,600	13,400	<500 Year
North St. Vrain above confluence S. St. Vrain	112*	12,300	1,000	2,850	4,310	10,630	>500 Year	1,060	3,800	5,840	13,100	500 Year
St. Vrain below confluence N. and S. branches	218*	23,000*	2,040	6,670	8,890	20,260	>500 Year	2,200	7,950	12,100	26,600	<500 Year
St. Vrain River at Interstate 25	889*	23,500*	6,070*	12,500*	16,510*	41,960	>100 Year	6,740	17,800	24,100	43,500	100 Year
Lefthand Creek upstream of US 36	47	3,520	830*	2,850*	4,940*	11,630*	>50 Year	1,260	3,440	4,800	9,220	50 Year
Little James Creek at confluence James Creek	3*	1,800*	130*	650*	1,160*	3,220*	<100 Year	420	1,040	1,390	2,430	<500 Year
James Creek above Little James Creek	9	2,900	200	1,190	2,140	6,010	>100 Year	780	1,770	2,340	4,000	>100 Year
James Creek at X/S A (d/s of Main Street)	17*	3,300	360*	2,180	3,930	10,880	50-100 Year	950	2,400	3,300	6,200	100 Year
Little Thompson River												
Little Thompson River above West Fork	14	2,680	170	280	340	490	>500 Year	75	480	840	2,250	>500 Year
Little Thompson River below West Fork	43	12,300	775	2,166	2,585	N/A	>500 Year	650	2,240	3,420	7,500	>500 Year
Little Thompson River at Interstate 25	170	14,500	5,535	12,723	14,728	19,923	100 Year	4,140	10,900	16,000	33,500	<100 Year
Big Thompson River Watershed												
Big Thompson at Lake Estes Below Dry Gulch	154*	5,330*	2,250	3,800	4,700	7,200	>100 Year	850	3,420	5,550	13,400	100 Year
Big Thompson at Drake above North Fork	188*	12,500	2,750	5,700	7,500	13,600	500 Year	960	3,960	6,450	15,700	<500 Year
Big Thompson below Drake	276*	14,800	3,700	7,850	10,400	19,200	>100 Year	2,120	7,500	11,800	27,000	>100 Year
Big Thompson at CR 29	314	15,500	3,800	10,500	15,300	37,000	100 Year	3,040	10,100	15,500	34,000	100 Year
Big Thompson River at Interstate 25	577*	19,600*	4,300	8,800	11,500	21,000	<500 Year	5,090	14,900	21,800	45,100	<100 Year
North Fork Big Thompson River at Drake	86*	5,900	1,500	4,100	6,100	14,100	100 Year	1,540	4,340	6,240	12,600	100 Year
Buckhorn Creek at Masonville above Redstone	97*	7,700	4,674	10,321	13,862	24,000	25 Year	3,570	8,830	12,200	22,590	25-50 Year
Buckhorn Cr. at confluence w/ Big Thompson	144*	11,200	6,844	15,090	20,244	36,000	25 Year	4,850	12,600	17,400	32,500	50 Year

*Values have been updated from the CDOT/CWCB Hydrology Investigation Phase One – 2013 Flood Peak Flow Determinations Memo, July 16, 2014.

Table 2—Colorado Flood Recovery Resources (effective October 1, 2015)

Funding Type	Total Allocation	Dollars Used to Date	Purpose
Public Assistance (FEMA)	\$347 million	\$347 million	1,161 total projects
SBA Loans (SBA)	\$109.8 million	\$109.8 million	Homes \$80.4 million Businesses \$76.8 million
Emergency Watershed Protection Grant (EWP)	\$69.7 million	\$12.9 million	Streambank stabilization, debris removal and long-term watershed restoration
National Flood Insurance Program (NFIP) Payments	\$66.7 million	\$66.7 million	2,093 claims
CDBG-DR (DOLA)	\$320.3 million	\$105.1 million	Housing, economic, infrastructure
Individual Assistance (FEMA)	\$61.7 million	\$61.7 million	16,555 homes received funding
Federal Hwy. Administration Emergency Relief Program (CDOT)	\$450 million	\$274 million	Repair and build state highways (27 closed, 485 miles impacted)
Colorado Water Conservation Board (CWCB) and Northern Water	\$40 million	\$23.2 million	Emergency flood loans for irrigators and water providers
	\$225,000	\$100,000	Flood response grants to local governments
	\$1.93 million	\$1.02 million	Watershed recovery grants
	\$2.55 million	\$2.55 million	Individual grants to 107 irrigators and water providers
	\$2.5 million	\$2.5 million	Grant for watershed restoration and debris removal (SB-179)
GOCO Flood Recovery Grant Program (DNR)	\$27 million	\$19 million	Restore trail and park systems and open spaces
Fundraising	\$21.7 million	\$20.5 million	Assistance to individuals and families from non-governmental organizations
USDA FSA Emergency Conservation Program (CDA)	\$5.8 million	\$5.2 million	Technical assistance to ranchers and farmers
Emergency Relief for Federally Owned Roads Program (CDOT)	\$3.5 million	\$3.5 million	Repair roads washed out by floods
USDA FSA's Emergency Forest Restoration Program (EFRP)	\$3 million	\$3 million	Supports the owners of non-industrial private forests restore forest health damaged by natural disasters
Flood Related Disaster Assistance (OEDIT)	\$2.98 million	\$2.98 million	Grants/loans
Energy/Mineral Assistance Impact Fund (DOLA-DLG)	\$11.2 million	\$11.2 million	Community planning, capacity building and construction grants for 11 communities
National Emergency Grant (CDLE)	\$4.6 million	\$2.6 million	Assist citizens in securing jobs that support the recovery effort; 213 Coloradans served
Drinking Water Revolving Fund, Water Pollution Control Revolving Fund (CDPHE)	\$2 million	\$2 million	Revolving loan program for funding publicly owned water and wastewater systems and eligible pollution control projects
CDPHE/Colorado Water Resources and Power Development Authority	\$2 million	\$1.02 million	Technical assistance for preparing FEMA project worksheets
FEMA Crisis Counseling Program (CDPHE)	\$5.7 million	\$3.3 million	Crisis counseling outreach and services to impacted Coloradans
U.S. Dept. of Education Project SERV Grant (CDE)	\$750,000	\$750,000	Mental health support at impacted schools
Disaster Unemployment Assistance (CDLE)	\$710,424	\$329,450	Workers unable to work due to floods and not qualified for unemployment
State Disaster Emergency Fund	\$111 million	\$67.5 million	State cost share for federal program; other emergency response and recovery support
D-SNAP—one time, federally funded, electronic food stipend (CDHS)	\$212,104	\$212,104	Residents' flood-related expenses
Private funds to restore outdoor recreation facilities, parks and trails	\$167,000	\$98,875	Grants and assistance to help local communities' outdoor recreation facilities, parks and trails

Funding Type	Total Allocation	Dollars Used to Date	Purpose
Colorado Low-Income Weatherization Program (CEO)	\$461,228	\$291,000	Weatherization services
CDPHE general fund and private foundation funds	\$40,000	\$40,000	State/private foundation funds for local public health agencies, as well as testing private wells
Emergency Food and Shelter National Board (FEMA)	\$17,800	\$17,800	Supplement emergency food and shelter program
National Farm Aid (CDA)	\$10,000	\$10,000	Purchasing household goods
Disaster Case Management Program (DCMP) (OEM)	\$2.7 million	\$60,439	Provides funding for disaster case management services to impacted Coloradans
Mapping of Natural Hazard Areas (SB-245)	\$6.87 million	\$3.8 million	Updating of floodplain maps in flood impacted watersheds; pilot debris flow and erosion zone mapping
Energy Performance Contracting (CEO)	\$6.8 million	\$2 million	Financing mechanism for public agencies to incorporate energy efficiency into projects
HB14-1002 Natural Disaster Grant Fund (CDPHE)	\$16.8 million	\$16.8 million	Water and wastewater planning, design, construction, rehabilitation
	\$1.71 Billion	\$1.17 Billion	





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